# Commercial Aviation Alternative Fuels Initiative

***Supporting solutions for secure and sustainable aviation***

Contacts:
Rich Altman, CAAFI, altrich@cox.net
Bill Litant, MIT, wlitant@mit.edu

February 3, 2009

## CAAFI aligns aviation R&D efforts, alternative fuel suppliers and government initiatives

*CAAFI R&D team gathers diverse players to focus on alternative jet fuel development.*

**What?** January 27, 2009, Dayton, OH. Meeting of the Commercial Aviation Alternative Fuels Initiative (CAAFI) Research & Development Team workshop and road-mapping session.

**Why?** To update ongoing R&D activities and needs, develop overall R&D roadmap and renewable fuel feedstock roadmap and align aviation efforts with broader government and private sector energy initiatives.

**Who?** The 75 attendees included representatives from the aircraft and engine manufacturers, alternative fuel producers, biofuel feedstock growers, a number of services from the Department of Defense — in particular, Air Force alternative fuel leaders from Wright Patterson Air Force Base — the US Department of Agriculture Rural Development, the Department of Energy, the National Science Foundation (NSF), EPA, NASA and Universities.

**Meeting Highlights**

The R&D workshop included:

- A confirmation that renewable jet fuels qualify for new federal funding sources for R&D and deployment, and can help meet national energy objectives for the US Department of Agriculture and the Department of Energy. These new biofuel funding programs are administered by the USDA Rural Development and DOE Energy Efficiency and Renewable Energy organizations.
- Dr. James (Tim) Edwards from the Air Force Research Laboratory noted the rapid progress being made on military synthetic fuels and biofuels alternative fuel certification. USAF FT certification is ahead of schedule and under budget and newer fuels (e.g. HRJ biofuel) are drafting along in the wake of FT.
- John Regalbuto of NSF and chair of the Biomass Conversion task force of the USDA/DOE Biomass R&D Board described the broad range of potential routes to next generation hydrocarbon biofuels via new catalytic gasification; catalytic pyrolysis; aqueous phase reforming and synthetic biology processes. Cellulosic jet fuels are a new frontier with great potential and large biomass availability.
- NASA Researchers discussed the advantages of halophytes as potential biofuel feedstocks. Salt tolerant plants that can grow in seawater and saline environments, halophytes promise non-competition with food, fresh water and arable land and increased sustainability.
- Mark Rumizen, CAAFI fuel certification lead, gave an overview on the fuel certification process and progress on the synthetic jet fuel specification (DXXXX) under development.
- Introduction of a new Fuel Readiness Level (FRL) scale to allow a common understanding of fuel development steps from R&D to fuel certification to business development. The new scale

incorporates civilian and military Technology Readiness Level (TRL) scales and will be a useful tool and common language for tracking the fuel development, approval and commercialization process.

- The R&D and feedstock road-mapping sessions identified additional funded and unfunded activities and new areas of focus (called swimlanes). The data will be compiled and updated roadmaps will be issued to permit the participants to align efforts and eliminate remaining gaps required to certify and to successfully deploy renewable jet fuels in the near to mid-term.
- The feedstock road-mapping demonstrates a new level of granularity in CAAFI efforts. It reveals the accelerated pace of maturing fuel processing options and provides an improved understanding of sustainability criteria necessary for acceptance of new feedstocks that can speed development and deployment of renewable jet fuels .

Boeing's Dave Daggett, R&D team co-lead, commented on the progress that the fuels effort has made in a short time. "We've made great strides in making aviation a central focus of alternative fuels research including 4 successful flight programs. Our efforts today will help focus industry and government - suppliers and users on how to move forward to deployment on those fuels that have been tested and how to mature additional technologies."

**About CAAFI**

CAAFI's mission is to enhance energy security and environmental sustainability for aviation through alternative fuels. CAAFI is a forum that focuses the efforts of the U.S. commercial aviation supply chain to engage the emerging alternative fuels industry. It enables its diverse participants — representing all the leading stakeholders in the field of aviation — to build relationships, share and collect needed data, and motivate and focus research on aviation alternative fuels. *See* CAAFI brochure: http://web.mit.edu/aeroastro/partner/caafi/caafi-descrip.pdf

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